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# The Desirability of a Future Integrated Reporting in the Study of Social and Innovative Practices

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## Abstract

Corporate social responsibility (CSR) has been considered the materialisation of ethics in organisations. CSR practices reflect companies' non-financial aspects, such as social and environmental issues. The proposal of an integrated report that jointly presents financial and non-financial issues would provide a global view of business activity, which will allow for analysis of the relationships and interactions among financial and non-financial resources involved in value creation, including human, social and relational, natural, and intellectual capital. If these resources are related, a report that integrates all of them would facilitate analysis. In this research, the relationship between innovation and CSR is studied. Environmental commitment may be a source of innovation (in the process of production and types of products) and involves social, relational, and intellectual capital changes. Innovation has previously been analysed from a perspective of competitiveness, necessitating a change of approach towards stakeholders that could allow us to reach a conceptual understanding of these relations. The research is empirically verified by studying a sample of 590 firm-years across 118 European companies that are leaders in sustainability, in the five-year period of 2011–2015. The results obtained show that CSR is a benchmark for addressing innovation and justifies the interest in an integrated reporting model that provides a global view of business.

**Keywords:** Integrated Report, Corporate Social Responsibility, Innovation, Stakeholders, Sustainability

## 1. Introduction

The concepts of corporate social responsibility (CSR) and business ethics have been used interchangeably in the existing literature [1]. While ethics is the set of principles and values that guides business behaviour, CSR is the set of socially and environmentally responsible practices of the company [2]. In recent decades, CSR has become an element to be integrated into the core of a business to allow the creation of value beyond the economic and ensure company longer term economic social viability of the company [3, 4].

Recent literature states that CSR could be oriented towards the search for value creation in terms of innovation [5, 6]. Numerous papers have suggested that CSR and innovation are related [7–10], but this relationship is not solidly proven and

more research on the issue is necessary [9]. Some of this research states that their relationship increases operational efficiency by using cleaner technologies [11]. Another part of the research points out that CSR (if it were properly embedded across an organization) could improve performance through the development of innovative practices, processes, and products that enhance a company's competitive advantage through differentiation and cost saving strategies [12, 13]. Finally, other research, unrelated to competitive and operational aspects, shows that CSR linked to stakeholder management drives innovation in response to stakeholder demands, by improving companies' social performance [14–16]. Our research is included in this last group of studies and aims to analyse whether innovation is the consequence of CSR combined with the demands of company stakeholders.

One of the difficulties presented by the analysis of the relationship between CSR and innovation is the framework in which to place this object of study. The intuitive idea is clear: innovation and the concern for sustainability must be related and promote value in companies. However, possibly the biggest problem so far has been the lack of a business model that covers both concepts. The development of integrated reporting could provide a framework for studying these elements. The proposal of this type of report would be considered essential, as it would link the different responsibilities that companies assume. But the relationship between the different resources should first be demonstrated to justify the necessity of an integrated report [17]. Europe and the International Accounting Standards Board (IASB) are studying the suitability of making this type of report mandatory.

Integrated reporting provides an appropriate framework for CSR because in value creation, companies employ different types of capital, including natural capital, human capital, and social and relational capital [18] that, in the literature, have been grouped under the term CSR, which includes the responsibility assumed by the company in relation to these resources. CSR is a part of sustainability [19]. According to the Brundtland Report (1987), sustainable development is development that meets the needs of the present without compromising the needs of future generations [20]. Sustainability rests on three pillars: economic growth, environmental balance, and social responsibility. CSR can be defined as a company's responsibility for its impact on society [21], which leads to the integration into its corporate strategy of social, environmental, ethical, and human rights, and consumer concerns and commitments [21]. Integrated reporting is based on an accounting model that considers the responsible use of different resources to ensure sustainability or long-term value creation. The report must take into account the effort and investments made in CSR. In an integrated report, the elements that compose intellectual capital are knowledge-based intangibles. Among them are intellectual property (patents, licences, rights of exploitation and use of symbols, etc.) and organisational capital (tacit knowledge, systems, procedure and protocols). The element that may be most closely related to CSR is industrial property, and so this will be the focus of this research. Industrial property is the result of a process of innovation. Innovation can be considered as a process of discovery and development that gives rise to new products and production processes [22, 23]. Innovation is the application of knowledge to gain new knowledge that may be disruptive or incremental [24]. Companies are currently making great efforts in the field of innovation; in fact, it can be considered an inevitable step for any company that wants to grow, maintain, or create competitive advantages and/or access to new markets [5, 6]. Its importance for the survival and success of companies is widely accepted in the literature.

The first objective of this work is to deepen the theoretical framework around the relationship and interaction between CSR and innovation, setting stakeholder orientation (as opposed to the usual orientation to the market) as the study's approach to sustainability [14, 25]. This will serve to justify the interest of

considering all these elements in a single document: an integrated report that is currently being considered for promotion by international organisations.

The second objective is to study the relationship between CSR and intellectual capital, specifically intellectual property. The results will allow us to verify contrast the integration of CSR and stakeholder orientation into the core business as a means of fostering innovation in companies. This justifies the importance that the holistic approach of integrated reporting will have in the study of value creation. The aim is to find that a company's social and relational capital creates intellectual value. The previous research into integrated reporting has mainly focused on the analysis of its adoption and its extension, but qualitative research on the possibilities of this type of reporting is scarce [26]. This highlights the relevance of our research, as the findings on the relationship between non-financial elements will be highly relevant in deciding whether to make integrated reporting that offers a global view of companies a mandatory requirement.

To achieve these objectives, the study is focused on Europe, because of the interest and effort of the European Commission to promote the development and disclosure of financial and non-financial information as well as the fact that CSR programs have different content according to the geographical environment in which they are implemented [27, 28]. The study is carried out on a wide sample; a CSR measure that considers all dimensions is taken and uses panel data that allows for control of unobserved heterogeneity, giving robustness to the model.

The work is structured as follows: after reviewing the relevant literature, we present the theoretical framework and propose the hypotheses to be compared. Following this, we describe the methodology used and present and discuss the results and findings. Finally, conclusions are drawn.

## **2. Background review and hypotheses presented**

### **2.1 Integrated Reporting**

In recent years, we have seen a growing trend in companies to consider multi-dimensional reporting that reflects the different elements involved in the development of business activity [29]. These reports integrate social, environmental, financial, and corporate governance information into a single document, the most widespread of which is the so-called integrated report, which aims to provide a synthesised and holistic view of organisations and their actions [17, 30].

In 2010, the International Integrated Reporting Council (IIRC) was formed with the participation of the main professional bodies and global accounting regulators - International Accounting Standards Board (IASB), Financial Accounting Standards Board (FASB), International Federation of Accountants (IFAC), and International Organization of Securities Commissions (IOSCO)- and other public bodies, the "Big Four" audit companies (Deloitte, EY, KPMG and PwC), leading multinationals, and representatives of institutions promoting social and environmental accounting [31]. The IIRC published the conceptual framework for integrated reporting, identifying a set of fundamental concepts and basic principles and contents for integrating sustainability into corporate objectives and reports [18, 32, 33].

Integrated reporting is based on two basic ideas. First, that a company's results involve the participation of resources of a varied nature, some of which are internal, and so controlled or owned by the company, and others that are external to the company, such as natural resources (water, air, land, flora) or those generated by society (social cohesion, effective governments, infrastructures, educational systems). Both types of resource are present in value creation [17, 31, 34]. These



elements have to be considered in an integrated report to the extent that the company is accountable for the management of the resources used.

The second idea refers to sustainability. Value creation is not only to be understood in a financial sense; it also implies that there is a balance between the variations experienced by the various capitals, both internal and external, in the development of the business activity. The decreases in some of the capitals, mainly the external ones, and should be properly justified. This leads to the need for a reporting model that goes beyond the financial model and comprehensively considers the resources that allow the creation of value. Such a report can be also used as a management tool.

The analysis of sustainability requires combined consideration of the ecological, economic, and social effects that occur in the development of business activity and that can affect the availability of resources in the future. It refers to the responsibility of organisations to integrate economic, environmental, and social aspects into operations and business strategy [21] to assure the viability of the enterprise in the medium and long term [26, 35, 36]. It is assumed that there are relationships between all these elements that companies use and that it is necessary to ensure that they are real. Therefore, these dimensions should not be considered in isolation but should take into account their synergies and interrelations [19], which lead to medium and long term value creation [18, 32]. The underlying idea is that the combined effect of the different capitals is greater than the individual contribution of each of them. This leads to the idea that there must be a relationship between these capitals, which can and should be analysed prior to the study of their contribution to value creation.

## **2.2 Theoretical framework**

In relation to CSR disclosure, several theoretical frameworks have been used [37, 38]. The most widely used of these are: institutional theory, which is appropriate when it is necessary to analyse the incidence of normative, institutional, and cultural contexts, etc. [39, 40]; the legitimacy theory, which is based on the existence of a social contract or licence to operate between companies and society [38, 41]; and stakeholder theory, which states that the responsibilities of companies towards society have significantly expanded [42]. Stakeholder theory is the most used, useful, and dominant theory to explain sustainability practices and is applicable in the context of this research [43]. The non-financial aspect included in integrated reporting involves consideration of the participation of different resources and stakeholders in value creation and sustainability [30]. Integrated reporting requires CSR to be part of the corporate and core business strategy. According to stakeholder theory, suppliers of factors understood in a broad sense, i.e. the five types of capital indicated above, are involved and associated with the organisation and cooperate to ensure the survival and continuity of the firm [31]. An integrated report should respond to the needs and interests of key stakeholders (investors, consumers, employees, suppliers and community) [18].

The role of companies and their commitments to society, employees, other stakeholders, and the environment is changing [44, 45]. Stakeholder theory requires linking the behaviour of a company with the effects on its stakeholders. In this context, the company must take into account the stakeholders' interests in products, behaviours, and programs developed by the entity. Stakeholders are an essential element in the success or failure of an entity [46]. An integrated report should respond to the interests of the groups involved and to some extent implies the application of accountability for the use of financial and non-financial resources, such as intellectual, social or relational capitals.

Stakeholder theory requires that companies balance the legitimate but sometimes conflicting interests of stakeholders [46, 47]. This requires considering their

management and providing them with information [46]. A company's future success is linked to its consideration of and response to stakeholder expectations [48, 49].

Companies have to manage the stakeholders that directly or indirectly collaborate with the entity to achieve its objectives [45, 50]. This aspect of stakeholder theory fits into the framework of integrated reporting. Stakeholder theory has been widely considered in the literature as a solid justification for both social and environmental disclosure practices and for corporate governance mechanisms. In this sense, it is also applicable in the combined consideration of all these elements in a single report [26].

### **2.3 The orientation towards stakeholders and innovation**

Although stakeholder theory is widely accepted in relation to CSR and innovation, most research focuses on competitiveness, obtaining competitive advantages, [5] and analysing the effects of programs on performance indicators [51, 52]. Emphasis has been placed on the effect of these practices on the market or investors. However, in the last few years, we have seen the model evolve towards a broader vision, where CSR and innovative practices could generate value beyond economic and commercial benefits [5].

Recent literature states that CSR could be oriented towards the search for value creation in terms of innovation for the company and society [5, 6]. Some of this research shows that CSR drives innovation in response to stakeholder demands [14, 15]. These works have focused on a more ethical vision of the relationship between CSR and innovation. Innovation in itself can generate social benefits, such as the generation of more economic products, the creation of new jobs [53], and the development of more sustainable business models [11, 54]. In this sense, entities could establish innovative practices that respond to the demands and expectations of stakeholders to ensure the creation of value.

Stakeholders often have unused or untapped knowledge that complements a company's internal knowledge and is valuable in achieving the goal of sustainable value creation [12]. The importance given to stakeholders in the elaboration of CSR programs is evidenced by entities' establishment of relational networks and new channels of communication to obtain information about stakeholder demands, expectations, and perceptions. Attention to suggestions made by environmental agencies, research institutes, community, consumers, employees, and investors and, where appropriate, integration into CSR programs can help strengthen stakeholder relations. Engaging with stakeholders allows companies to identify innovation opportunities [55]. The active participation of stakeholders helps in the detection stage and favours efficiency in the development of new proposals avoiding the development of ideas that are not in demand in the market. Subsequently, the consideration of different interests in management makes it possible to create situations of mutual benefit for companies and society [3, 56]. The interests of the different stakeholders can be aligned with the concept of shared value, the company survives in the market through innovation and the companies meet different needs of its stakeholders. The concept of shared value underlies the integrated report.

According to the above, there is a positive relationship between orientation to stakeholders and the development of innovative practices. As a result of companies' focus on stakeholders in CSR programs, CSR is expected to have a greater impact on innovation. The following hypotheses are proposed:

Hypothesis 1. A company's orientation towards stakeholders encourages innovation.

Hypothesis 2. A company's stakeholder orientation positively moderates the effect of CSR on innovation.

3. Material and methods

3.1 Size and characteristics of the sample

CSR can be defined in many ways and measured using many different approaches. In the present study, we focus on a sample of European firms that form part of the Dow Jones Sustainability Index (DJSI). The firms in this index are leaders in the field of CSR. To qualify for incorporation into the index, they must conform to very demanding CSR guidelines (based on economic, social, and environmental indicators that will be included in the integrated report) and are rated according to these guidelines by the Sustainability Index of the Sustainable Asset Management (SAM) Group [57]. This score was utilised in the present study. The indexed companies develop practices that go beyond legal requirements and respond to ethical values and commitments demanded by society.

The period 2011–2015 is examined, obtaining an initial sample of 176 European firms that formed part of the DJSI. From the total number of European companies included in this index, we removed 41 that were dedicated to financial and insurance activities and a further 17 that have not been in the index throughout the entire period analysed. Accordingly, the final sample consisted of 118 firms.

The sample is distributed by country and sector as shown in **Tables 1** and **2**.

3.2 Variables selected

Innovation is the dependent variable. Innovation can be measured through output indicators (product and process innovations, patents) [58] or input indicators (R&D expenditure). Integrated reporting chooses to measure innovation through industrial property, i.e. innovation is measured by the number of patents registered (PAT) [59]. Patents have the advantage of being an objective element and a

Country	Frequency (number of companies)	Percent
Belgium	1	.8
Denmark	4	3.4
Finland	3	2.5
France	15	12.7
Germany	14	11.9
Hungary	1	.8
Ireland	1	.8
Italy	5	.8
Netherlands	8	4.2
Norway	4	6.8
Portugal	1	3.4
Spain	9	7.6
Sweden	9	7.6
Switzerland	12	10.2
United Kingdom	31	26.3
Total	118	100

**Table 1.**  
*Countries in the sample.*

Country	SIC CODE	Frequency (number of companies)	Percent
Mining, construction	100–1979	15	12.7
Manufacturing	2000–3999	56	47.5
Transportations, Communications, Electric, Gas and Sanitary service	4000–4999	23	19.5
Wholesale Trade	5000–5199	12	10.2
Retail	5200–5999	12	10.2
Total		118	100

**Table 2.**  
*Industries in the sample.*

measure of the results obtained from R&D activities [60, 61]. Moreover, it provides a measure of a firm’s current technological capacities, efficiency, and potential future profits from R&D [62]. In addition, it constitutes a mechanism that favours the appropriation of the benefits obtained from innovation [63] and the capacity to create added value [64].

In Europe, the adoption of patent protection tends to increase as firms grow [65]. Patents have been considered the most believable proxy of innovation [65]. The patents corresponding to each of the firms in our study were compiled from information disclosed by the Spanish Patent and Trademark Office (OEPM) for each of the years considered in this study.

Stakeholder orientation and CSR were taken as the independent variables.

On the one hand, stakeholder orientation (STAKE) is measured through the existence of mechanisms and channels of communication that aid the active participation and collaboration of stakeholders and provide possibilities for interaction [66]. Specifically, the characteristics of interactivity, the existence of forums/chats, and the existence of web 2.0 technologies (websites and social networking sites that allow users to share information and interact with each other), online surveys, and information sheets are analysed [67–69]. To this end, the websites of the companies selected each year from those making up the sample are reviewed.

On the other hand, CSR is a multidimensional construct that takes into account various dimensions and aspects- social, environmental and economics- [25, 70, 71] in accordance with the aims of this study. Many researchers use a single CSR measure, such as environmental performance, philanthropic contributions, corporate policies, revealed misdeeds, transparency, or investment in health and safety [72]; but this only considers one aspect of CSR. Among the multidimensional measures most commonly used are Kinder Lydenberg Domini’s *Socrates* database [7, 12, 73] and the Fortune magazine database. In recent years, stock indices have been set up with components including sustainability. In the present paper, CSR is measured using the DJSI score in the period referred to above for each of the companies included in our sample [57].

We also included a moderating variable “STAKE\*CSR”, to reflect the joint effect of the two variables. This will allow us to observe whether a company’s stakeholder orientation positively moderates the effect of corporate social responsibility on innovation.

Finally, control variables were included referring to the firm’s size, risk, and the industry sector in which it was active [9]. Size was measured using the logarithm of total asset (ASSETS) [71, 74]; the industrial sector (IND) was measured in accordance with the standard industrial classification code, thus creating a 5-block group [60, 75, 76]; and risk (RISK) was measured by the firm’s debt/asset ratio [75].



3.3 Methodology

Panel data econometric analysis was used to test the hypotheses proposed in this paper. Specifically, a random effect model (GLS regression) was utilised after applying the Breusch-Pagan and Hausman tests. Panel data provide consistent data from samples for which repeated observations of cross-section data are available; in the present case, this refers to firms over a period of various consecutive years. Thus, no information is lost. In addition, the use of panel data makes it possible to control unobserved heterogeneity, which would otherwise bias the results [77, 78]. Therefore we eliminate the possibility of aggregation bias that can arise when using mean data for the variables, in time series models. The use of random effects has advantages over fixed effects, such as the problem of incidental parameters, being appropriate for random samples of large populations or allowing the treatment of omitted factors [79].

Panel data allow for the introduction of dynamic elements into the model. All this is why this analysis has been used in the recent literature on CSR and innovation [79, 80]. To test the hypotheses, the following model was considered:

$$PAT = b_1 + b_2 \text{ STAKE} + b_3 \text{ RSC} + b_4 \text{ STAKE} * \text{RSC} + b_5 \text{ ASSETS} + b_6 \text{ IND} + b_7 \text{ RISK} + e.$$

4. Results and discussion

Tables 3 and 4 show the descriptive statistics and correlations, and Table 5 shows the results obtained after applying the linear model to the panel data.

With respect to the indices of correlation (Table 4), there is evidently a positive, significant association between stakeholder orientation and innovation. The existence of communication channels to obtain information on stakeholder demands is a source of ideas that could allow the company to develop its capacity for innovation [55]. On the other hand, innovation in itself can generate social benefits, which justifies stakeholders’ demand for it [11, 53, 54]. In this respect, stakeholders could be promoting innovation practices in the company. This highlights the idea of shared value that underlies integrated reporting. The management of different capitals generates mutual benefits [3, 56]. In this case, the management of social and relational resources would develop entrepreneurial innovativeness.

	M	Std.Dev.	Min	Max
<i>Dependent Variable</i>				
Patents (PAT)	19.92	28.36	0	233
<i>Independent variables</i>				
Stakeholders Orientation (STAKE)	2.04	0.41	1.83	4.16
CSR	66.40	14.05	33	91
<i>Control variables</i>				
Assets	7.36	7.63	3.39	8.41
Risk	0.61	0.19	0.03	1.56
Industry (IND)	3.55	1.41	1	5

Table 3.  
Descriptive statistics of the variables used (N = 118).

	1	2	3	4	5
1. PAT	1.00				
2. STAKE	0.19**	1.00			
3. CSR	0.21**	0.38**	1.00		
4. ASSETS	-0.02	0.01	0.02	1.00	
5. RISK	-0.22**	0.02	-0.11 <sup>†</sup>	-0.00	1.00
6. INDUSTRY	0.12 <sup>†</sup>	0.02	0.04	0.14 <sup>†</sup>	0.21**
<sup>†</sup> $p < .05$ ; ** $p < .01$ . Pearson's correlation coefficient.					

**Table 4.**  
Correlations between dependent, independent and control variables.

Dependent variable	PAT		
	Model 1 (n = 118)	Model 2 (n = 118)	Model 3 (n = 118)
Constant	5.09*** (5.51)	15.32*** (3.50)	1.30*** (5.97)
CSR	0.16*** (0.06)		0.22*** (0.07)
Stake		0.06** (0.02)	0.33** (0.17)
Stake*CSR			0.01 <sup>†</sup> (0.00)
Risk	-7.07 (4.45)	-9.52** (4.32)	-8.36** (4.38)
Ind	-0.19 (0.74)	0.05 (0.70)	-0.04** (0.72)
Assets	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Adjusted R Square	0.281	0.286	0.299
Wald	10.91 (4)	9.57 (4)	16.94 (6)
Probability	0.027	0.048	0.009
Rho	0.172	0.133	0.141
<sup>†</sup> $p < .10$ ; ** $p < .05$ ; *** $p < 0.01$ . Standard errors appear in parenthesis.			

**Table 5.**  
Regression analysis.

The analysis of correlations shows a relationship between CSR and patents [68, 73, 75]. Greater effort in the field of CSR is reflected as a higher level of innovation (measured by the number of patents). The results of innovation are associated with CSR [9, 75]. In selecting differentiation strategies, some companies decide on CSR, and this strategy requires innovation activities [53, 81]. CSR constitutes an organisational resource that incorporates various policies, among which is that of innovation. CSR provides a framework for developing innovation [82, 83]. When planning innovation, companies must take into account the priorities determined by CSR. Thus, the latter may be utilised as a means of directing innovation [84]. They may also respond to the fact that the adoption of a CSR strategy requires changes be made to production processes or new products be

introduced, ones that are more environment-friendly – and these considerations are relevant in the innovation process [85].

The positive correlation between CSR and stakeholder orientation shows that socially responsible companies address the demands and interests of their stakeholders and integrate them into their CSR practices [79]. In this sense, socially responsible companies could integrate stakeholders' social and environmental demands into their innovation and development strategies. On the other hand, the correlation suggests that there is a stakeholder demand for corporate social responsibility practices [50, 86].

CSR practices are negatively and significantly associated with levels of debt, which could mean that companies with a lower level of financial risk are more likely to adopt CSR practices. The financial structure of the company determines its capacity for innovation. The greater capacity to access sources of financing allows a greater inflow of financial resources that can be applied to various strategies, including innovation [79]. Finally, the results show a significant correlation between the industry sector and innovation, which indicates that the sector in question is a significant factor with respect to the introduction of technological change [23]. Due to the need for mechanisation of their processes, certain industries have seen their capacity for innovation fostered.

Model 1 of **Table 5** shows that CSR has a positive and significant effect on innovation. The companies analysed are leaders in sustainable and socially responsible practices, so it seems logical to think that they use CSR to generate intangible assets, such as industrial and intellectual property [82, 87]. From a management standpoint, the adoption of sustainability practices has a positive impact on value creation [13].

Model 2 describes the relationship between stakeholder orientation and innovation, and shows that the examined companies' innovation efforts are positively associated with stakeholder orientation. These companies are implementing innovation as a means to respond to the interests of stakeholders. In this sense, we accept Hypothesis 1. In recent decades there has been an increasing demand for more environmentally friendly processes, practices, products, and services. This social demand has triggered a wave of innovation in companies that are more oriented towards stakeholders and society in general [79]. Thus, the results show that more stakeholder-oriented companies generate more patents. Relationships, networks, and collaborative mechanisms between the company and the groups of interest are effective mechanisms for capturing new social and environmental needs and developing innovation capabilities to address them [45, 50]. **Table 6** shows the description of the variable stakeholder orientation.

Model 3 shows the possible moderating effect of stakeholder orientation on the relationship between CSR and innovation. The variables in this model are of greater statistical significance, and thus we conclude that the impact of CSR is enhanced by stakeholder orientation. Stakeholder demands encourage the effect of CSR on innovation. Stakeholder orientation should be included in the business strategy to boost research and development in the company [55, 79]. In accordance with the above results, Hypothesis 2 is accepted. Thus, empirical research shows that in order to enhance the effect of corporate social responsibility on innovation, it is necessary for the company to know the demands and interests of its stakeholders, and communication channels are a good means of achieving that objective. In this sense, the results suggest that CSR generates intellectual capital when it generates social value by fostering relationships with stakeholders [14, 15]. The different business capitals are related as the integrated report points out.

Stakeholder orientation		$STAKEH = \sum_{i=1}^M g^i$
Concept	Items	Score
1. Characteristics of interactivity	a. An e-mail address other than that of the webmaster is provided for requests for information or explanations. b. Personal contacts with the persons responsible at the university for the information provided are provided on the website. c. The website has a mailing list to update information to users of the information applying this service.	0/0.33 on the basis of the absence-presence of each item
2. Forums/chat	a. General forums b. CSR-related forums	0.5 if the online forum/chat used allows for discussion of general issues 1 if there is a specific forum/chat used for the discussion of CSR issues
3. Web2.0 technology	a. An e-mail address other than that of the webmaster is provided for requests for information or explanations. b. Personal contacts with the persons responsible at the university for the information provided are provided on the website. c. The website has a mailing list to update information to information users who apply this service.	0/0.33 on the basis of the absence-presence of each item
4. Online surveys	a. General content forums b. CSR-related forums	0.5 if the online forum/chat used allows the discussion of general topics and 1 if there is a specific forum/chat used for the discussion of CSR topics.
5. Newsletter	a. General content forums b. CSR-related forums	0.5 if the online forum/chat used allows the discussion of general topics and 1 if there is a specific forum/chat used for the discussion of CSR topics.

Source: Own elaboration based on previous literature [67–69].

**Table 6.**  
Description of the variable stakeholder orientation.

## 5. Conclusions

The determinant relationships between innovation, CSR (social and environmental practices), and stakeholder orientation show that there is a real link among them, and as a result, it would be necessary for the company to adopt a holistic vision that takes into account different capitals (natural, human, social, and relational) to ensure the creation of value and the generation of assets [18]. In this sense, our study shows that CSR and stakeholder orientation promote intellectual capital, industrial property, in leading European companies in sustainability, and an integrated report that includes all the resources will allow for better management of them.

CSR constitutes a framework incorporating various policies, one of which is innovation. Some of the policies on innovation are related to those concerning CSR, which indicates that companies may seek to differentiate themselves from their competition by means of their CSR strategy. Innovation is a difficult factor to



control but, as shown in the results, its links to CSR provide a suitable context for appropriate implementation. A finding of the research is that innovation policies are aimed at goals that are in accordance with CSR practices [87].

Moreover, taking CSR as a variable mediated by stakeholder orientation, we conclude that there is a joint effect on innovation. The integration of these two strategies generates a greater number of patents. The research shows that stakeholder orientation may require changes to production processes or products, and hence a re-orientation of innovation policy may be required [55]. An additional finding is that the resulting attention to the social and environmental demands of stakeholders could encourage more sustainable practices and processes, which could generate shared value [3, 48].

It would be interesting in subsequent research, to examine the extent to which CSR practices require innovations involving radical change or inventions, or whether the innovations made are mere developments of existing technology. In addition, it could be interesting to analyse concepts such as eco-innovation. Furthermore, as risk constitutes a significant factor, a further study should be made of the effect of a firm's ownership structure on the CSR strategies adopted and on its innovation policy. Future research could study the impact of different stakeholders on innovation policies (such as employees and consumers) and analyse the possible impact of corporate governance, which could improve the analysis.

## **Conflict of interest**

The authors declare that there is no conflict of interest.


## **Annex. Description of the “stakeholder orientation” variable**

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